

## REMARKS

### **I. Status of the claims**

Claims 1-9 were previously canceled. Claims 10-13 and 16-21 are amended in this response; claims 14 and 15 were previously presented. After entering this response, claims 10-21 remain for consideration.

### **II. Claim Amendments**

Claim 10 is amended by (1) limiting the process to one high pressure tube reactor and (2) changing the pressure range from the original claimed range of "100 to 4000 bar" to "1000 to 4000 bar." Claim 20 is also amended by limiting the apparatus to one tube reactor rather than "at least one tube reactor." These amendments are fully supported by the original disclosure. For instance, the support for the pressure range of 1000 to 4000 bar is found in the paragraph starting at line 20, page 5. As the Figure indicates, the process or the apparatus of the invention uses one tube reactor rather than two. Other minor changes have been made to the amended claims to make these claims more understandable or consistent. No new matter has been introduced by the claim amendments.

### **III. Response to the Rejection of Claims 10-21 for Lacking Enablement**

The Examiner has rejected claims 10-21 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. According to the Examiner, the claims contain the term "re-circulate" while the specification does not teach how "re-circulate" is achieved. Applicants respectfully disagree with the Examiner and ask the Examiner to withdraw the rejection for the reason that follows.

The word "re-circulate" is well explained in English dictionaries. According to Webster's Third New International Dictionary of the English Language, G. & C.

Merriam Company, Springfield, Massachusetts, U.S.A., 1971, "re-circulate" means "to circulate again" (see page 1895), while "circulate" means "to flow" (see page 409). For the convenience of the Examiner's review, Applicants have enclosed in this response a copy of these two pages.

For instance, claim 10 recites ". . . the unpolymerized ethylene separated off in the high-pressure stage is separated from any remaining monomeric, oligomeric and/or polymeric constituents and is re-circulated to a first inlet of the tube reactor in a high-pressure circuit . . ." By "re-circulated," Applicants mean that the unpolymerized ethylene flows back to a first inlet of the tube reactor. The meaning of "re-circulate" is very clear and will be so understood by ordinary skilled artisans in the industry. Furthermore, ordinary artisans in the industry will understand that ethylene, as a gas, flow through pipes under pressure. Therefore, it is not required under the patent law for Applicants to teach how "to re-circulate" ethylene because this technique is well known by ordinary skilled artisans.

#### **IV. Response to Anticipation/Obviousness Rejection of Claims 20 and 21**

The Examiner has rejected claims 20 and 21 under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as being obvious over Marechal (US 6,355,741).

MPEP § 2131 provides: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). According to MPEP § 2131.02, "The identical invention must be shown in as complete detail as is contained in the . . . claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

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To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As the Examiner recognized, Marechal teaches a loop reactor, while claims 20 and 21 claim a high pressure tube reactor. Thus Marechal cannot anticipate the claims or make the claimed invention obvious because it teaches a different thing from what is claimed here.

Applicants respectfully request that the Examiner withdraw the rejections and allow remaining claims 10-21. Applicants invite the Examiner to telephone their attorney, Shao-Hua Guo, at (610) 359-2455 if a discussion of the application might be helpful.

Respectfully submitted,  
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